LETTER TO THE EDITOR

Climate change and surgical care in Pakistan: An understudied relation

Tayyaba Hamid[1], Aysha Arif[2], Fatima-Tul-Zahra Muhammad Khalid[3]

Dear Editor, Despite obvious health risks posed to the general population, there is a considerable shortage of literature regarding the impact of climate change on surgical care in Pakistan. Most of the available literature encompasses its effects in Western countries, whereas climatic and living conditions in Pakistan are widely different. A scoping review performed in November 2023 by Bharani et al. thoroughly summarises the overall impact of climate change on surgical care across the globe, including India, which is most similar to Pakistan regarding temperature changes and population living conditions. One study conducted in 2014 states a higher probability of Staphylococcus aureus soft-tissue infections with an average weekly rise of 1.7℃ and a 10% rise in relative humidity. Another study conducted in India in 2011, after noticing a trend of greater mortality in the summers, showed that 22.54% of patients under higher ambient temperatures (38.2 ±2.96℃) had adverse outcomes compared to only 7.41% complications in the comfortable group (28.41 ± 1.63°C). Higher outdoor temperatures also resulted in longer hospital stays for patients. Increased temperatures were associated with worsened outcomes in trauma patients as declared by another study. These studies had relatively small sample sizes and needed larger population profiles for further refinement.[2]

We know that a hot climate negatively influences our body's physiology. Excessive perspiration and dehydration reduce blood volume, overworking the heart and exacerbating cardiac conditions. During the winters, Pakistan also faces heavy smog, with dense particulate matter endangering asthmatic and COPD patients. In these patients, anaesthetic care is compromised, and operations are eventually delayed. Atypically heavy rainfalls can lead to flooding, outbreaks of infectious diseases and a general risk of physical injuries.[3] Conversely, surgeons and operative staff working under higher temperatures are dehydrated and tired, which can harm their performance. Most of our hospitals are not centrally air-conditioned, and thermal comfort is not provided. Postoperative patients under constant exposure to heat and humidity are prone to surgical site infections due to favourable conditions for bacterial growth.

Some studies in Pakistan prove a seasonal variation in the occurrence and admission rate of surgical disease, but this does not follow the context of global warming in our country. We are bringing attention to this concern so that surgeons across Pakistan rightfully study this growing problem and harness more sustainable solutions for patients and the environment.

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[1,2]Department of General Surgery, Arif Memorial Teaching Hospital, Lahore, Pakistan; [3]4th Year MBBS Student, Rashid Latif Medical College, Lahore, Pakistan.

Correspondence: Tayyaba Hamid. **Email:** tayyabahamid009@gmail.com

ORCID ID: 0009-0009-5388-0957

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